



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,709	10/29/2003	Volker Formanski	8540G-000193	5556
27572	7590	08/24/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			MERCADO, JULIAN A	
			ART UNIT	PAPER NUMBER
			1745	
DATE MAILED: 08/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,709

Applicant(s)

FORMANSKI ET AL.

Examiner

Julian Mercado

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-11, 14-19, 22-29, 31, 32 is/are rejected.
- 7) ☒ Claim(s) 4,5,12,13,20 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10-29-03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on October 29, 2003 has been considered by the examiner.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites antecedence to the “multi-stage compressor system of claim 17...”, however, claim 17 is drawn to a “method of operating a fuel cell system....” Thus, the scope of claim 24 is indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3, 6, 9-11, 14, 17-19, 22 and 25-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Buswell et al. (U.S. Pat. 5,360,679)

Art Unit: 1745

Buswell et al. teaches for a fuel cell system a multi-stage compressor comprising a first stage compressor [130] and a second stage compressor [130] comprising: a compression unit that compresses said first pressurized air stream to a second pressurized air stream at a second pressure. See col. 6 line 59 et seq. Turbines serve as the drive unit. See col. 10 line 60 et seq. A first heat exchanger [138] enables heat transfer between the second pressurized air stream and the exhaust stream to heat said exhaust stream; note that the air stream [19] is cooled while the exhaust stream is heated to 319° F. See col. 10 line 17 et seq. A second heat exchanger [132] is disposed between said first stage compressor and said second stage compressor to reduce a temperature of said first pressurized air stream. See col. 6 line 59 et seq., where the temperature of the air stream is reduced from 251° F to 140° F. A portion of said second pressurized air stream is mixed with said exhaust stream at burner [136]. See col. 10 line 60 et seq. The second stage compressor is circumvented during operation in a first mode in favor of a second mode of operation of “providing occasional auxiliary energy....” See col. 7 line 2 et seq.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 15, 16, 23, 24, 31 and 32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Buswell et al.

The teachings of Buswell et al. are discussed above.

As to variable guide blades and a waste gate bypass, it would naturally flow for the turbine of Buswell et al. to have, inherently, guide blades and a waste bypass, absent of a showing by applicant that the claimed invention distinguishes over the reference. *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990) See, for example, <http://en.wikipedia.org/wiki/Turbine> or <http://en.wikipedia.org/wiki/Wastegate>.

### ***Allowable Subject Matter***

Claims 4, 5, 12, 13, 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest the instant invention regarding a bypass valve between the first and second compressors having an open state, a closed state and a partially open state. Although bypass valves, in the opinion of the examiner, are well-known in the art of fuel cell power plants (such as exemplified by U.S. Pat. 6,488,345 B1 to Woody et al.), the first and second compressors disclosed in Buswell et al. are in continuous tandem operation, which precludes a bypass valve in the configuration and operation as presently claimed.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

Art Unit: 1745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be "P. Ryan", with a stylized flourish.

PATRICK JOSEPH RYAN  
SUPERVISORY EXAMINER